

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0102

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF TULARE
FOR
OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. The County of Tulare (hereafter Discharger) owns and operates a municipal solid waste landfill about four miles northwest of Woodville, in Section 35, T20S, R25E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.
2. The facility consists of two existing, contiguous waste management units (Units). Unit IA is unlined and covers 57 acres, as shown in Attachment B, which is incorporated herein and made part of this Order. Unit IB, constructed with an engineered alternative composite liner, covers eight acres, as shown in Attachment B. The facility is comprised of Assessor's Parcel Numbers (APN) 196-040-03 and 196-040-04.
3. In a Joint Technical Document, submitted on 2 January 2004, the County proposed the waste management unit II (Unit II) expansion into approximately 71.4 acres immediately south of Units IA and IB (see Attachment B). In a 22 January 2004 letter and memorandum, Regional Board staff informed the Discharger that prior to the construction of any expansion Unit, a liner performance demonstration and a Report of Waste Discharge needed to be submitted to the Regional Board for revision of the waste discharge requirements.
4. On 19 September 1997, the Regional Board issued Waste Discharge Requirements, Order No. 97-201, in which the facility was classified as a Class III waste disposal site for the discharge of municipal solid wastes in accordance with the regulations in effect when the order was issued. This Order classifies the Units as a Class III landfill that accepts municipal solid waste in accordance with Title 27, California Code of Regulations (CCR), §20005, et seq. (Title 27).
5. The Regional Board adopted Cleanup and Abatement Order No. 98-706 on 18 March 1998. Order No. 98-706 requires the Discharger to initiate and complete an Evaluation Monitoring Program and initiate and complete a Corrective Action Program in accordance with Title 27 CCR Section 20430(a)-(c).

6. The Discharger submitted a work plan and time schedule for completing the Evaluation Monitoring Program on 14 May 1998 in accordance with Task 16.a of Order No. 98-706. The Executive Officer approved the work plan and time schedule for completing the Evaluation Monitoring Program in a 24 December 1998 letter. The Discharger initiated the Evaluation Monitoring Program work plan in accordance with Task 16.b of Order No. 98-706.

SITE DESCRIPTION

7. The waste management facility was constructed in a topographically flat region of the San Joaquin Valley. The native ground surface elevation ranges between approximately 310 feet above mean sea level at the eastern boundary of the facility and 300 feet above mean sea level at the western facility boundary. The ground surface slopes approximately 12.5 feet per mile toward the west. Geologically, the landfill is located on the westward dipping, eastern limb of the asymmetrical geosynclinal trough of the San Joaquin Valley. Sediments ranging in age from Jurassic to Holocene fill in the geosynclinal trough. The site overlies a basement complex of pre-Tertiary age metasediments, plutonics, and ultramafics. Sequentially overlying the basement complex are approximately 1,000 to 3,500 feet of consolidated and unconsolidated Tertiary marine deposits, continental deposits, and unconsolidated Quaternary alluvium. Of significance to the site are the Quaternary age floodplain deposits of Lewis Creek, which consist of moderately permeable, interbedded and laterally discontinuous poorly-sorted gravels, fine-to-medium-grained sands, sandy-silts, silts, and clay.
8. The measured hydraulic conductivity of the native soils underlying the Unit ranges between 2.1×10^{-2} and 2.2×10^{-4} cm/sec.
9. The Units are not within a fault hazard zone. The closest Holocene faults are approximately 15 to 20 miles to the southeast near Lake Success. Recorded magnitudes of seismic events along these faults range between 4.5 and 4.9. The Coalinga Nose Fault, used to calculate the peak ground acceleration for the design of the Units' containment structures, is approximately 68 miles northwest of the facility. The seismic event along the Coalinga Nose Fault has a recorded magnitude of 6.7 and is considered to be the maximum probable earthquake associated with the Units. The ground maximum acceleration associated with the maximum probable earthquake is estimated to be 0.03 g.
10. Land uses within 1,000 feet of the facility are agricultural.
11. The facility receives an average of 11.34 inches of precipitation per year as measured at the Exeter Station. The mean pan evaporation is 70.7 inches per year as measured at the Tulare Station.

12. The 100-year, 24-hour precipitation event is estimated to be 3.38 inches, based on observations at the Exeter Station.
13. The waste management facility is not within a 100-year floodplain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 0650660825E; Panel 825 of 1375.
14. There are 28 municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the site. No surface springs or other sources of groundwater supply have been observed. A domestic well (well identification number 20S/25E-35G1) is within 1,000 feet of the southern boundary of the waste management facility.

WASTE AND SITE CLASSIFICATION

15. The Discharger discharges municipal solid wastes and nonhazardous solid wastes, as defined in Title 27 CCR Section 20164.
16. The site characteristics where the Units are located (see Finding Nos. 7 and 8) do not meet the siting criteria for a new Class III landfill contained in §20260(a) and (b)(1) of Title 27. As such, the site is not suitable for operating new Units or lateral expansions of existing Units for the discharge and containment of Class III wastes as described in Finding No. 15, without the construction of additional waste containment features in accordance with Title 27 CCR Section 20260(b)(2) and State Water Resources Control Board Resolution No. 93-62.

SURFACE AND GROUND WATER CONDITIONS

17. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
18. Surface drainage is toward Elk Bayou in the Kaweah Delta Hydrologic Area (558.10) of the Tulare Lake Hydrologic Basin.
19. The landfill is on the floor of the southern San Joaquin Valley. The designated beneficial uses of surface waters on the valley floor, as specified in the Basin Plan, are agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.
20. The first encountered groundwater is about 101 to 116 feet below the native ground surface during the spring and about 113 to 130 feet below the native ground surface during the summer. Groundwater elevations range from 206 feet MSL to 208 feet MSL during the

spring and about 196 feet MSL to 194 feet MSL in the summer. The groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 15 feet.

21. Monitoring data has demonstrated that background groundwater quality has an electrical conductivity (EC) ranging between 1,200 and 1,300 micromhos/cm, with total dissolved solids (TDS) ranging between 860 and 790 mg/l.
22. At the time of the approval of the initial Detection Monitoring Program report on 8 May 1997, the direction of groundwater flow beneath the waste management facility was determined to be generally toward the northwest, with some variance to the north. However, groundwater elevation data from 2003 through 2004 indicates that a southwest-northeast trending depression exists beneath the center of the waste management facility. Northwest of the waste management facility, the direction of groundwater flow is toward the southeast. Southeast of the waste management facility, the direction of groundwater flow is toward the northwest. The average groundwater gradient ranges between 0.002 and 0.007 feet/foot north of the waste management facility and between 0.002 and 0.004 feet/foot south of the waste management facility, depending on the season. Information regarding the average groundwater velocity is not currently available.
23. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.

GROUNDWATER MONITORING

24. A total of 16 groundwater monitoring wells exist along the perimeter of Units IA and IB (see Attachment B). At the time the Regional Board issued Waste Discharger Requirements, Order No. 97-201, the groundwater detection monitoring system consisted of downgradient monitoring wells M-1b, M-3b, M-5b, M-6b, M-8, and M-9, and upgradient groundwater monitoring wells M-11 and M-12. The selection of the aforementioned downgradient and upgradient monitoring wells was based on a northwesterly to northerly groundwater flow direction (see Finding No. 22). However, based on current groundwater flow directions (see Finding No. 22), the aforementioned downgradient and upgradient groundwater monitoring wells may not be adequately located to provide the background and downgradient groundwater quality data to allow for the earliest possible detection of a release from Units IA and IB in accordance with Title 27 CCR section 20420(b). The remaining groundwater monitoring wells M-1, M-2, M-3a, M-4, M-5a, M-6a, M-7, and M-10, when not dry, are proposed to be used as piezometers for groundwater gradient determination. Currently, groundwater monitoring wells M-1, M-2, M-4, M-5a, M-6a, and M-7 are dry.
25. A vadose zone detection monitoring system has been installed at the waste management facility and consists of soil-pore gas monitoring wells 3ABT, 4BT, and 7BT (see Attachment

- B) located around the perimeter of Units IA and IB and a pan lysimeter beneath the Unit IB leachate collection and removal system (LCRS) sump and troughs.
26. The Discharger's detection monitoring program for groundwater at Units IA and IB needs to be reevaluated to satisfy the requirements contained in Title 27. Based on current groundwater flow directions (see Finding No. 22), the existing downgradient and upgradient groundwater monitoring wells may not be adequately located to provide the background and downgradient groundwater quality data to allow for the earliest possible detection of a release from the Units in accordance with Title 27 CCR section 20420(b). Therefore, the Discharger needs to reevaluate the Detection Monitoring Program for Units IA and IB to demonstrate that it complies with Title 27 CCR Section 20420.
 27. Volatile organic compounds (VOCs) are often detected in a release from a landfill, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill (see Finding No. 32). Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a Unit.
 28. Title 27 CCR Sections 20415(e)(8) and (9) provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit in accordance with Title 27 CCR Section 20415(b)(1)(B)2.-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.
 29. The Regional Board may specify a non-statistical data analysis method pursuant to Title 27 CCR Section 20080(a)(1). California Water Code Section 13360(a)(1) allows the Regional Board to specify requirements to protect underground or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.
 30. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.
 31. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a Unit. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one non-naturally occurring waste

constituent above its MDL is sufficient to provide for the earliest possible detection of a release, the detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

GROUNDWATER DEGRADATION

32. Groundwater detection monitoring data indicates that 1,1-dichloroethane (1,1-DCA), benzene, dichlorodifluoromethane, tetrachloroethylene (PCE), trichlorofluoromethane, 1,1-dichloroethylene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), methylene chloride, trichloroethylene (TCE), and vinyl chloride have been detected at concentrations above the Practical Quantitation Limit (PQL). Bromochloromethane, trans-1,2-dichloroethylene (trans-1,2-DCE), chloroform, and total xylenes have been detected at concentrations between the PQL and the Method Detection Level (MDL). Chlorodifluoromethane, 2-methylpropane, 1-chloro-1,1-difluoromethane, and dichlorodifluoromethane have been tentatively identified.

Statistical analysis of inorganic waste constituents has determined that bicarbonate, calcium, carbonate, electrical conductivity (EC), iron, magnesium, nitrate, potassium, sulfate, and total dissolved solids (TDS) have exceeded their respective background concentrations in groundwater.

33. Vadose zone detection monitoring data indicates that 1,1-DCA, TCE, trans-1,2-DCE, benzene, 1,2,4-trichlorobenzene, 1,2-dichloropropane, ethylbenzene, acrolein, vinyl chloride, methyl bromide, PCE, toluene, trichlorofluoromethane, dichlorodifluoromethane, methylene chloride, acetone, chloroform, and xylenes have been detected on one or more occasions in soil pore gas samples. Of the aforementioned organic compounds, 1,1-DCA, PCE, benzene, dichlorodifluoromethane, trichlorofluoromethane, and 1,2,4-trichlorobenzene, are more routinely detected. The concentrations of the aforementioned organic compounds typically range between the MDL and the PQL (trace levels). However, PCE, benzene, dichlorodifluoromethane, trichlorofluoromethane, methylene chloride, TCE, xylenes, and toluene are occasionally detected above their respective PQLs.

LINER PERFORMANCE DEMONSTRATION

34. On 15 September 2000 the Regional Board adopted Resolution No. 5-00-213 *Request For The State Water Resources Control Board To Review The Adequacy Of The Prescriptive Design Requirements For Landfill Waste Containment Systems To Meet The Performance Standards Of Title 27*. The State Board responded, in part, that “a single composite liner system continues to be an adequate minimum standard” however, the Regional Board “should require a more stringent design in a case where it determines that the minimum design will not provide adequate protection to a given body of groundwater.”

35. In a letter dated 17 April 2001, the Executive Officer notified Owners and Operators of Solid Waste Landfills that “the Regional Board will require a demonstration that any proposed landfill liner system to be constructed after 1 January 2002 will comply with Title 27 performance standards. A thorough evaluation of site-specific factors and cost/benefit analysis of single, double and triple composite liners will likely be necessary.”
36. In the 2 January 2004 Joint Technical Document (see Finding 3), the County proposed to construct the 71.4-acre expansion Unit II south of Units IA and IB. Unit II is proposed to consist of the following components, in ascending order: 1) a prepared subgrade; 2) a reinforced geosynthetic clay liner (GCL); 3) a double-sided textured 60-mil high-density polyethylene (HDPE) geomembrane; 4) a geocomposite drainage layer comprising the blanket LCRS and consisting of a 5.7 mm (0.225 inch) thick HDPE geonet core heat bonded to geotextile filter fabric; and 5) a two-feet thick protective operations layer.
37. To date, the Discharger has not submitted a liner performance demonstration for the construction of the proposed liner system (see Finding No. 35) for the Unit II expansion to demonstrate that it would meet the applicable performance standard for a Class III landfill. Therefore, the Unit II expansion cannot be considered for approval.

CEQA AND OTHER CONSIDERATIONS

38. The Tulare County Public Works Department (lead agency) certified a final environmental impact report for the construction of expansion Units IB, II, and III on 24 September 1996. However, the waste discharge requirements are not being revised for the construction of expansion Units, but for the purpose of making minor modifications to the prohibitions, specifications, and monitoring and reporting program. Therefore, the action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, Section 15301.
39. This order implements:
- a. *The Water Quality Control Plan for the Tulare Lake Basin, Second Edition, 1995;*
 - b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997, and subsequent revisions;
 - c. The prescriptive standards and performance criteria of RCRA Subtitle D, Part 258; and
 - d. State Water Resources Control Board Resolution No. 93-62, *Policy for Regulation of Discharges of Municipal Solid Waste*, adopted 17 June 1993.

40. California Water Code Section 13267(b) provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, or is suspected of discharging, or who proposed to discharge within its region, or any domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need of the reports and the benefits to be obtained from the reports." The monitoring and reporting program required by this Order and the attached "Monitoring and Reporting Program No. R5-2005-0102" are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

41. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
42. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
43. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
44. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Title 23 CCR Sections 2050 through 2068. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.swrcb.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED, pursuant to California Water Code Sections 13263 and 13267, that Order No. 97-201 is rescinded, and that the County of Tulare, its agents, successors, and assigns, in order to meet the provisions of California Water Code Division 7 and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23, CCR Section 2510 et seq., and 'designated waste' is as defined in Title 27.
2. The discharge of wastes outside of either Unit IA or Unit IB is prohibited.
3. The discharge of waste to a closed Unit is prohibited.
4. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or nonstatistical data analysis method and retest method listed in this Order, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements.
5. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.
6. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Unit if such waste constituents could migrate to waters of the State — in either the liquid or the gaseous phase — and cause a condition of nuisance, degradation, contamination, or pollution.
7. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the Unit, could produce a violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products, which in turn:
 - a. require a higher level of containment than provided by the Unit; or
 - b. are 'restricted hazardous wastes'; or
 - c. impair the integrity of containment structures;is prohibited.
8. Construction of lateral expansion Units is prohibited.

B. DISCHARGE SPECIFICATIONS

1. The discharge of nonhazardous wastes shall be restricted to either Unit IA or Unit IB.
2. The discharge shall remain within the designated disposal area at all times.
3. A minimum separation of five feet shall be maintained between the base of the wastes and the highest anticipated elevation of underlying groundwater, including the capillary fringe.
4. Collected leachate shall be disposed of in accordance with Title 27 and in a manner consistent with its waste classification.
5. Condensate from the landfill gas control systems shall be disposed of in a manner consistent with the chemical characteristics of the wastes.
6. Neither the treatment nor the discharge of wastes shall cause a pollution or nuisance as defined by the California Water Code Section 13050.

C. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.
2. Units and containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping as a result of a 100-year, 24-hour precipitation event.
3. Precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface water runoff under the 100-year, 24-hour precipitation conditions.
4. The Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.
5. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control, construction, and after closure, the minimum amount necessary to irrigate cover vegetation or for uses approved by the Executive Officer.

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

-11-

6. Cover materials shall be graded to divert precipitation from Units, to prevent the ponding of water over wastes, and to resist erosion as a result of a 100-year, 24-hour precipitation event.
7. All drainage control systems shall be designed and constructed to prevent the ponding of water over wastes.
8. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.
9. Units or portions of Units shall be designed, constructed, and operated in compliance with precipitation and flood control provisions and requirements contained in the Standard Provisions and Reporting Requirements referenced in Provision E.4 below.
10. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
11. Methane and other landfill gases shall be adequately vented, removed from the Unit, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.
12. Surface drainage within the waste management facility shall either be contained on-site or be discharged in accordance with applicable storm water regulations.
13. The Discharger shall maintain a *Storm Water Pollution Prevention Plan* and *Monitoring Program and Reporting Requirements* in accordance with State Water Resources Control Board Order No. 97-03-DWQ, or retain all storm water on-site.
14. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.
15. A minimum thickness of six inches of on-site cover soil shall be maintained over all but the active disposal area of a Unit. This area shall be properly graded and drained to prevent ponding and infiltration. The active disposal area shall be confined to the smallest practicable area based on the anticipated quantity of waste discharge and other waste management operations, and shall be covered daily with a minimum of six inches of on-site soils, or an alternative daily cover material approved by the Executive Officer.
16. Annually, prior to **1 October** and **within 7 days** following a major storm event, all precipitation and drainage control systems shall be inspected. By **31 October** of each

year, or **within 30 days** of a major storm event, any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes.

17. By **15 November of each year**, or within 45 days of a major storm event, the Discharger shall submit an annual report to the Regional Board describing the results of the inspection(s) and the measures taken to maintain the precipitation and drainage control systems.

D. DETECTION MONITORING SPECIFICATIONS

1. By **1 September 2005**, the Discharger shall submit to the Regional Board a report that reevaluates the Detection Monitoring Program to determine whether it complies with Title 27 CCR Section 20420. A reevaluation of the Detection Monitoring Program is necessary due to the change in the direction of groundwater flow beneath the waste management facility since the approval of the initial Detection Monitoring Program report on 8 May 1997. At a minimum, the Discharger needs to: 1) determine the Point of Compliance; 2) assess the need for additional downgradient Monitoring Points based on possible changes to the Point of Compliance; 3) determine the groundwater velocity; 4) determine whether new upgradient Monitoring Points are needed if monitoring wells M-11 and M-12 are inadequately located to provide background groundwater quality data; 5) determine the concentration limits for each constituent of concern if upgradient wells other than monitoring wells M-11 and M-12 are used for the collection of background groundwater quality data; and 6) determine the cause of the southwest-northeast trending groundwater depression through the center of the waste management facility.
2. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program No. R5-2005-0102.
3. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices, and a minimum of **48 hour** notification prior to the collection of samples associated with a detection monitoring program, evaluation monitoring program, or corrective action program.
4. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2005-0102, and the Standard Provisions and Reporting Requirements, dated April 2000.

5. The Water Quality Protection Standard for organic compounds which are not naturally occurring and not detected in background groundwater samples shall be taken as the detection limit of the analytical method used (i.e., US-EPA methods 8260 and 8270). The presence of non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the Unit.
6. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. R5-2005-0102.
7. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. R5-2005-0102 and Title 27 CCR Section 20415(e).
8. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.
9. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) *Methods for the Analysis of Organics in Water and Wastewater* (USEPA 600 Series), (2) *Test Methods for Evaluating Solid Waste* (SW-846, latest edition), and (3) *Methods for Chemical Analysis of Water and Wastes* (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.
10. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.
11. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

12. **“Trace” results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.
13. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.
14. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. **The MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent’s actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.
15. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
16. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.
17. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27 CCR Section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that**

can be reliably achieved within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to Title 27 CCR Section 20415(e)(7), shall consider the PQLs listed in Title 22 CCR Division 4.5 Appendix IX to Chapter 14, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

18. Background for water samples or soil-pore gas samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E), for review and approval by the Executive Officer.
19. Upon receiving written approval from the Executive Officer, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.
20. The Discharger may propose an alternate statistical method [to the methods listed under Title 27 CCR Section 20415(e)(8)(A-D)] in accordance with Title 27 CCR Section 20415(e)(8)(E), for review and approval by the Executive Officer. Upon receiving written approval from the Executive Officer, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.
21. The Discharger shall use the following non-statistical method for all analytes (non-naturally occurring waste constituents) that are detected in fewer than 10% of the background samples. The non-statistical method shall be implemented as follows:

- a. From the constituent of concern or monitoring parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedence provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if **either**:
 - 1) The data contains two or more analytes that are detected in fewer than 10% of background samples that equal or exceed their respective MDLs; or
 - 2) The data contains one or more analyte that equals or exceeds its PQL.
 - b. **Discrete Retest** [Title 27 CCR Section 20415(e)(8)(E)]:
 - 1) In the event that the Discharger concludes (pursuant to paragraph 21.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Regional Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.
 - 2) For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL and shall:
 - a) **Immediately** notify the Regional Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and
 - b) Comply with Detection Monitoring Specification 21.b.3 below if any constituent or constituents were verified to be present.
 - 3) Any analyte that triggers a discrete retest per this method shall be added to the monitoring parameter list such that it is monitored during each regular monitoring event.
22. If the Discharger determines that there is measurably significant evidence of a release from the Units at any monitoring point, the Discharger shall **immediately** implement the requirements of **XI. Response To A Release, C. Release Has Been Verified**, contained in the Standard Provisions and Reporting Requirements.

E. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 and 40 Code of Federal Regulations Part 258 (Subtitle D) that are not specifically referred to in this Order.
3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0102, which is incorporated into and made part of this Order.
4. The Discharger shall comply with the applicable portions of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR Section 20005 et seq. and 40 CFR 258 et seq.)*, dated April 2000, which are hereby incorporated into this Order.
5. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the appropriate Regional Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.
6. All reports and transmittal letters shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if;
 - 1) The authorization is made in writing by a person described in a, b, or c of this provision;

- 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a Unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 3) The written authorization is submitted to the Regional Board.
- e. Any person signing a document under this Section shall make the following certification:
- “I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”
7. The Discharger shall take all reasonable steps to minimize any adverse impact to the waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
 8. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and postclosure maintenance period of the Unit(s) and during subsequent use of the property for other purposes.
 9. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of the Order.
 10. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory requirements contained in Provision E.6.e. and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

-19-

California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Board.

11. The Discharger shall establish cost estimates for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill, and submit these estimates to the Executive Officer for review and approval.
12. The Discharger shall maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill as specified in Title 27 CCR Section 22221, and shall submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board as specified in Title 27 CCR Subchapter 3 Article 1.
13. The Discharger is required to maintain financial assurance mechanisms for closure and post closure maintenance costs as specified in Title 27 CCR Sections 22205 and 22210. The Discharger is required to submit the financial assurance mechanism to the Financial Assurances Section of the California Integrated Waste Management Board, which determines if the mechanism meets the requirements of Title 27 CCR Subchapter 3 Article 1, and if the amount of coverage is adequate.
14. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task

Compliance Date

a) Detection Monitoring Program

Submit a report that reevaluates the Detection Monitoring Program to demonstrate that it complies with Title 27 CCR Section 20420. (Detection Monitoring Specification D.1.)

By 1 September 2005

b) Financial Assurance Review

1) Annual Review of Financial Assurance for initiating and completing corrective action (see Provision E.12.)

By 30 April each year

2) Annual Review of Financial Assurance for closure and postclosure maintenance (see Provision E.13.)

By 30 April each year

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

-20-

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may apply to the Attorney General for judicial enforcement or issue a complaint for Administrative Civil Liability.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24 June 2005.

THOMAS R. PINKOS, Executive Officer

VSM:vsm/rac

CALIFORNIA REGIONAL WATER QUALITY CONTROL REGIONAL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0102
FOR
COUNTY OF TULARE
FOR
OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. R5-2005-0102.

A. REQUIRED MONITORING REPORTS

<u>Report</u>	<u>Due</u>
1. Groundwater Monitoring (Section D.1)	See Table I
2. Annual Monitoring Summary Report (Section E.5.)	Annually
3. Unsaturated Zone Monitoring (Section D.2)	See Table II
4. Leachate Monitoring (Section D.3)	See Table III
5. Facility Monitoring (Section D.4)	As necessary
6. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. R5-2005-0102 and the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste

discharge requirements or the lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in E. Reporting Requirements.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, semiannual, and annual monitoring reports shall be submitted to the Regional Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

<u>Sampling Frequency</u>	<u>Reporting Frequency</u>	<u>Reporting Periods End</u>	<u>Report Date Due</u>
Monthly	Quarterly	Last Day of Month	by Semiannual Schedule
Quarterly	Quarterly	31 March	31 July
		30 June	31 July
		30 September	31 January
		31 December	31 January
Semiannually	Semiannually	30 June	31 July
		31 December	31 January
Annually	Annually	31 December	31 January

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall contain the information specified in E. Reporting Requirements and a discussion of compliance with the waste discharge requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall be reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. **Water Quality Protection Standard Report**

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the constituents of concern, the concentration limits, and the point of compliance and all monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

- a. Identify **all distinct bodies of ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points for the groundwater monitoring program, and the unsaturated zone monitoring program. The map shall include the point of compliance in accordance with Title 27 CCR Section 20405.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

2. **Constituents of Concern**

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Tables I through III for the specified monitored medium, and Table V. The Discharger shall monitor all constituents of concern every five years, or more frequently as required in accordance with a Corrective Action Program.

a. **Monitoring Parameters**

Monitoring parameters are constituents of concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for all Units are those listed in Tables I through III for the specified monitored medium and Table IV.

3. Concentration Limits

The concentration limits for each constituent of concern are as follows:

- a. For anthropogenic (not naturally occurring) constituents, which have no natural, and therefore, no background values, the concentration limit (water quality protection standard) shall be the detection limit of the analytical method(s) used.
- b. Pursuant to Title 27 CCR Section 20415(e)(10)(B), for each naturally occurring inorganic constituent of concern, the concentration limit (applicable suite of background data) for that constituent shall be redetermined each semiannual monitoring period according to the following “moving window” formula, and the Discharger shall use the resulting concentration limit to apply the parametric Interwell Upper Prediction Limit analysis method featured in the Sanitas™ for Groundwater statistical software package, unless the software indicates that a different method (e.g., the nonparametric version of the same method) is more appropriate. For each reporting period subsequent to the initial reporting period, the Discharger shall create the new concentration limit, for that constituent, by taking the prior reporting period’s background data, adding the newest datum, for that constituent, from background monitoring wells and removing the oldest datum. Monitoring wells M-11 and M-12 are currently being used for the collection of background data.

4. Point of Compliance

The point of compliance for the water standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

5. Compliance Period

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, leachate, and the unsaturated zone, in accordance with Detection Monitoring Specifications of Waste Discharge Requirements, Order No. R5-2005-0102. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, unsaturated zone monitoring devices, and leachate monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I through III.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table V.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27 CCR Sections 20415 and 20420 in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer(s) and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

A groundwater contour map and tabular data shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened

interval and the elevation of the pump intake. The tabular data shall be prepared quarterly and submitted semiannually.

Groundwater samples shall be collected from the point-of-compliance wells and any additional wells added as part of the approved groundwater monitoring system.

Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I.

The monitoring parameters shall also be evaluated annually with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schueller plot. Samples for the constituents of concern specified in Table I shall be collected and analyzed in accordance with the methods listed in Table V every five years.

2. Unsaturated Zone Monitoring

The Discharger shall operate and maintain an unsaturated zone detection monitoring system that complies with the applicable provisions of Title 27 CCR Sections 20415 and 20420 in accordance with a detection monitoring plan approved by the Executive Officer. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in the approved Sample Collection and Analysis Plan.

Unsaturated zone samples shall be collected from the monitoring devices of the approved unsaturated zone monitoring system. The collected samples shall be analyzed for the listed constituents in accordance with the methods and frequency specified in Table II. All detected monitoring parameters shall be graphed so as to show historical trends at each monitoring point. Samples for the constituents of concern specified in Table II shall be collected and analyzed in accordance with the methods listed in Table V every five years.

The pan lysimeter at Unit IB shall be checked monthly for liquid and monitoring shall also include the total volume of liquid removed from the system. Unsaturated zone monitoring reports shall be included with the corresponding semiannual groundwater monitoring and shall include an evaluation of potential impacts of the facility on the unsaturated zone and compliance with the Water Quality Protection Standard.

3. Leachate Monitoring

The Unit IB leachate collection and removal system (LCRS) sump shall be inspected monthly for leachate generation. Upon detection of leachate in a previously dry LCRS, leachate shall be sampled **immediately** and analyzed for the constituents listed in Table III. Leachate shall then be sampled and analyzed annually during the fourth quarter thereafter, with a retest during the following second quarter if

constituents are detected that have not been previously detected. Leachate samples shall be collected and analyzed for the listed constituents in accordance with the methods and frequency specified in Table III. The constituents of concern list shall include all constituents listed in Table V. The quantity of leachate pumped from each sump shall be measured and reported monthly as Leachate Flow Rate (in gallons).

Leachate that seeps to the surface from a Unit shall be sampled and analyzed for the constituents listed in Table III upon detection. The quantity of leachate shall be *estimated* and reported as Leachate Flow Rate (in gallons/day).

4. Facility Monitoring

a. Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in Section E.3.f. below. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of the problem and the repairs.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

E. REPORTING REQUIREMENTS

1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by Order No. R5-2005-0102, and records of all data used to complete the application for Order No. R5-2005-0102. Records shall be maintained throughout the life of the facility including the postclosure period.

Such legible records shall show the following for each sample:

- a. Sample identification and the monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
 - b. Date, time, and manner of sampling;
 - c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
 - d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the MDL and PQL for each analysis.
2. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.
3. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:
 - a. For each monitoring point addressed by the report, a description of:
 - 1) The time of water level measurement;
 - 2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 3) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore while the sample was being taken;
 - 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and

- 5) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.
- b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
- c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the Units, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.
- d. Laboratory statements of results of all analyses evaluating compliance with requirements.
- e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
- f. A summary and certification of completion of all **Standard Observations** for the Units, for the perimeter of the Units, and for the receiving waters. The Standard Observations shall include:
 - 1) For the Units:
 - a) Evidence of ponded water at any point on the facility (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.
 - 2) Along the perimeter of the Units:
 - a) Evidence of liquid leaving or entering the Units, estimated size of affected area, and flow rate (show affected area on map);
 - b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and
 - c) Evidence of erosion and/or of day-lighted refuse.
- g. The quantity and types of wastes discharged and the locations in the Units where waste has been placed since submittal of the last such report.

4. The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Regional Board **within seven days**, containing at least the following information:
 - a. A map showing the location(s) of seepage;
 - b. An estimate of the flow rate;
 - c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);
 - d. Verification that samples have been submitted for analyses of the Constituents of Concern and Monitoring Parameters, and an estimated date that the results will be submitted to the Regional Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.
5. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the reporting period of the previous monitoring year. This report shall contain:
 - a. All detected monitoring parameters and constituents of concern shall be graphed so as to show historical trends at each monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month reporting periods, shall be submitted in tabular form as well as in a digital file format acceptable to the Executive Officer. The Regional Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [§20420(h)], in that this facilitates periodic review by the Regional Board.
 - c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

- d. A map showing the area and elevations in which filling has been completed during the previous calendar year and a comparison to final closure design contours.
- e. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.
- f. An evaluation of the effectiveness of the leachate monitoring/control facilities.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

24 June 2005

(Date)

VSM:vsm/rac

TABLE I
GROUNDWATER DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly
Temperature	°C	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Turbidity	Turbidity units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260, see Table IV)	µg/L	Semiannual
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE II
UNSATURATED ZONE DETECTION MONITORING PROGRAM

SOIL-PORE GAS

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Monitoring Parameters		
Volatile Organic Compounds (USEPA Method TO-14)	µg/cm ³	Semiannual
Methane	%	Semiannual

PAN LYSIMETER (OR OTHER LYSIMETER TYPE)

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Semiannual

Constituents of Concern (see Table V)

Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years

TABLE II
UNSATURATED ZONE DETECTION MONITORING PROGRAM

Continued

Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE III
LEACHATE DETECTION MONITORING PROGRAM

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Total Flow	Gallons	Monthly
Flow Rate	Gallons/Day	Monthly
Electrical Conductivity	µmhos/cm	Monthly
pH	pH units	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Carbonate	mg/L	Semiannual
Bicarbonate	mg/L	Semiannual
Nitrate - Nitrogen	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Calcium	mg/L	Semiannual
Magnesium	mg/L	Semiannual
Potassium	mg/L	Semiannual
Sodium	mg/L	Semiannual
Volatile Organic Compounds (USEPA Method 8260B, see Table IV)	µg/L	Semiannual
Constituents of Concern (see Table V)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260B, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8151A)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141A)	µg/L	5 years

TABLE IV

MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Electrical Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC:

USEPA Method 8260B

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene

TABLE IV
MONITORING PARAMETERS FOR DETECTION MONITORING

Continued

Hexachloroethane
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane (Methylchloroform)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

TABLE V
CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

<u>Inorganics (dissolved):</u>	<u>USEPA Method</u>
Aluminum	6010
Antimony	7041
Barium	6010
Beryllium	6010
Cadmium	7131A
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7062
Lead	7421
Mercury	7470A
Nickel	7521
Selenium	7742
Thallium	7841
Cyanide	9010B
Sulfide	9030B

Volatile Organic Compounds:

USEPA Method 8260B

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)

TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, 1-Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane

TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270C - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methylethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol

TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimethylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene

Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butyl nitrosamine)
N-Nitrosodiethylamine (Diethyl nitrosamine)
N-Nitrosodimethylamine (Dimethyl nitrosamine)
N-Nitrosodiphenylamine (Diphenyl nitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propyl nitrosamine)
N-Nitrosomethylethylamine (Methylethyl nitrosamine)
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol

TABLE V

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

Chlorophenoxy Herbicides:

USEPA Method 8151A

2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:

USEPA Method 8141A

Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine

INFORMATION SHEET

ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

The County of Tulare (hereafter Discharger) owns and operates a municipal solid waste landfill (landfill) about four miles northwest of Woodville.

The landfill consists of two existing, contiguous waste management units (Units). Unit IA is unlined and covers 57 acres and Unit IB, constructed with an engineered alternative composite liner covers eight acres. The existing Units are currently classified as Class III landfills that accept or accepted municipal solid waste in accordance with Title 27, California Code of Regulations (CCR), Section 2005, et seq.

The climate in the southern San Joaquin Valley is semi-arid, with hot, dry summers and cool winters. The facility receives an average of 11.34 inches of precipitation per year. The mean pan evaporation is 70.7 inches per year. The 100-year, 24-hour precipitation event is estimated to be 3.38 inches, based on observations at the Exeter Station. The landfill is not within a 100-year floodplain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 0650660825E; Panel 825 of 1375.

The landfill is located on the westward dipping, eastern limb of the asymmetrical basin of the San Joaquin Valley. Sediments ranging in age from Jurassic to Holocene fill the geosynclinal trough. The site overlies a basement complex of pre-Tertiary age metasediments, plutonics, and ultramafics. Sequentially overlying the basement complex are approximately 1,000 to 3,500 feet of consolidated and unconsolidated Tertiary marine deposits, continental deposits, and unconsolidated Quaternary alluvium. Of significance to the site are the Quaternary age floodplain deposits of Lewis Creek, which consist of moderately permeable, interbedded, and laterally discontinuous poorly-sorted gravels, fine-to-medium-grained sands, sandy-silts, silts, and clay.

The landfill is in a topographically flat region of the San Joaquin Valley. Surface drainage is westerly toward Elk Bayou in the Kaweah Delta Hydrologic Area (558.10) of the Tulare Lake Hydrologic Basin. There are no perennial streams in the immediate vicinity of the landfill. The designated beneficial uses of surface waters on the valley floor, as specified in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (Basin Plan), are agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.

There are 28 municipal, domestic, industrial, or agricultural groundwater supply wells within one mile of the site. No surface springs or other sources of groundwater supply have been observed. A domestic well (well identification number 20S/25E-35G1) is within 1,000 feet of the southern boundary of the waste management facility. The first encountered groundwater is about 101 to 116 feet below the native ground surface during

the spring and about 113 to 130 below the native ground surface during the summer. Groundwater elevations range from 206 feet MSL to 208 feet MSL during the spring and about 196 feet MSL to 194 feet MSL in the summer. The groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 15 feet. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 1,200 and 1,300 micromhos/cm, with total dissolved solids (TDS) ranging between 860 and 790 mg/l.

Groundwater elevation data from 2003 through 2004 indicates that a southwest-northeast trending depression exists beneath the center of the waste management facility. Northwest of the waste management facility, the direction of groundwater flow is toward the southeast. Southeast of the waste management facility, the direction of groundwater flow is toward the northwest. The average groundwater gradient ranges between 0.002 and 0.007 feet/foot north of the waste management facility and between 0.002 and 0.004 feet/foot south of the waste management facility, depending on the season. Information regarding the average groundwater velocity is not currently available.

The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.

A release from the existing Units has been detected in groundwater. Groundwater monitoring of the unconfined groundwater zone has detected numerous non-naturally occurring volatile organic compounds (VOCs) along the point of compliance of the landfill including: 1,1-DCA; 1,1-DCE; PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; benzene; vinyl chloride; Freon 11; Freon 12; methylene chloride; bromochloromethane; chloroform; and total xylenes. Statistical analysis of inorganic waste constituents has determined that bicarbonate, calcium, carbonate, electrical conductivity (EC), iron, magnesium, nitrate, potassium, sulfate, and total dissolved solids (TDS) have exceeded their respective background concentrations in groundwater.

Available detection monitoring data indicates that 1,1-DCA, TCE, trans-1,2-DCE, benzene, 1,2,4-trichlorobenzene, 1,2-dichloropropane, ethylbenzene, acrolein, vinyl chloride, methyl bromide, PCE, toluene, trichlorofluoromethane, dichlorodifluoromethane, methylene chloride, acetone, chloroform, and xylenes have been detected on one or more occasions in vadose zone soil pore gas samples. The organic compounds PCE, benzene, dichlorodifluoromethane, trichlorofluoromethane, methylene chloride, TCE, xylenes, and toluene are occasionally detected above their respective PQLs.

The Regional Board adopted Cleanup and Abatement Order No. 98-706 on 18 March 1998. Order No. 98-706 requires the Discharger to initiate and complete an Evaluation Monitoring Program and initiate and complete a Corrective Action Program in accordance with Title 27 CCR Section 20430(a)-(c). The Discharger submitted a work plan and time schedule for completing the Evaluation Monitoring Program on 14 May 1998 in accordance with Task 16.a of Order No. 98-706. The Executive Officer approved

INFORMATION SHEET - ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

-3-

the work plan and time schedule for completing the Evaluation Monitoring Program in a 24 December 1998 letter. The Discharger initiated the Evaluation Monitoring Program work plan in accordance with Task 16.b of Order No. 98-706.

Volatile organic compounds are often detected in a release from a landfill, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill. Since volatile organic compounds are not naturally occurring, and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 CCR for the determination of a release of wastes from a Unit. Title 27 CCR does provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit. However, Title 27 CCR does not specify a specific method for non-statistical evaluation of monitoring data. The Board may specify a non-statistical data analysis method pursuant to Title 27 CCR Section 20080(a)(1) of. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a Units, this Order specifies a non-statistical method for the evaluation of monitoring data.

The specified non-statistical method for evaluation of monitoring data in this Order provides two criteria (or triggers) for making the determination that there has been a release of waste constituents from a Unit. The presence of two waste constituents above their respective method detection limit (MDL), or one waste constituent detected above its practical quantitation limit (PQL), indicates that a release of waste from a Unit has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one waste constituent above its MDL is sufficient to provide for the earliest possible detection of a release in accordance with Title 27 CCR, the detection of two waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of detecting one waste constituent above its MDL as a trigger.

On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal municipal solid waste [MSW] regulations" or "Subtitle D") that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which municipal solid waste is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline", which was on 9 October 1993. With the issuance of Resolution No. 93-62, the State Water Resources Control Board established a statewide policy for the regulation of discharges of municipal solid wastes consistent with Subtitle D. Following the issuance of Resolution No. 93-62, the USEPA deemed the State of California to be an approved state, meaning that compliance with the applicable state regulations constitutes compliance with the corresponding portions of the federal

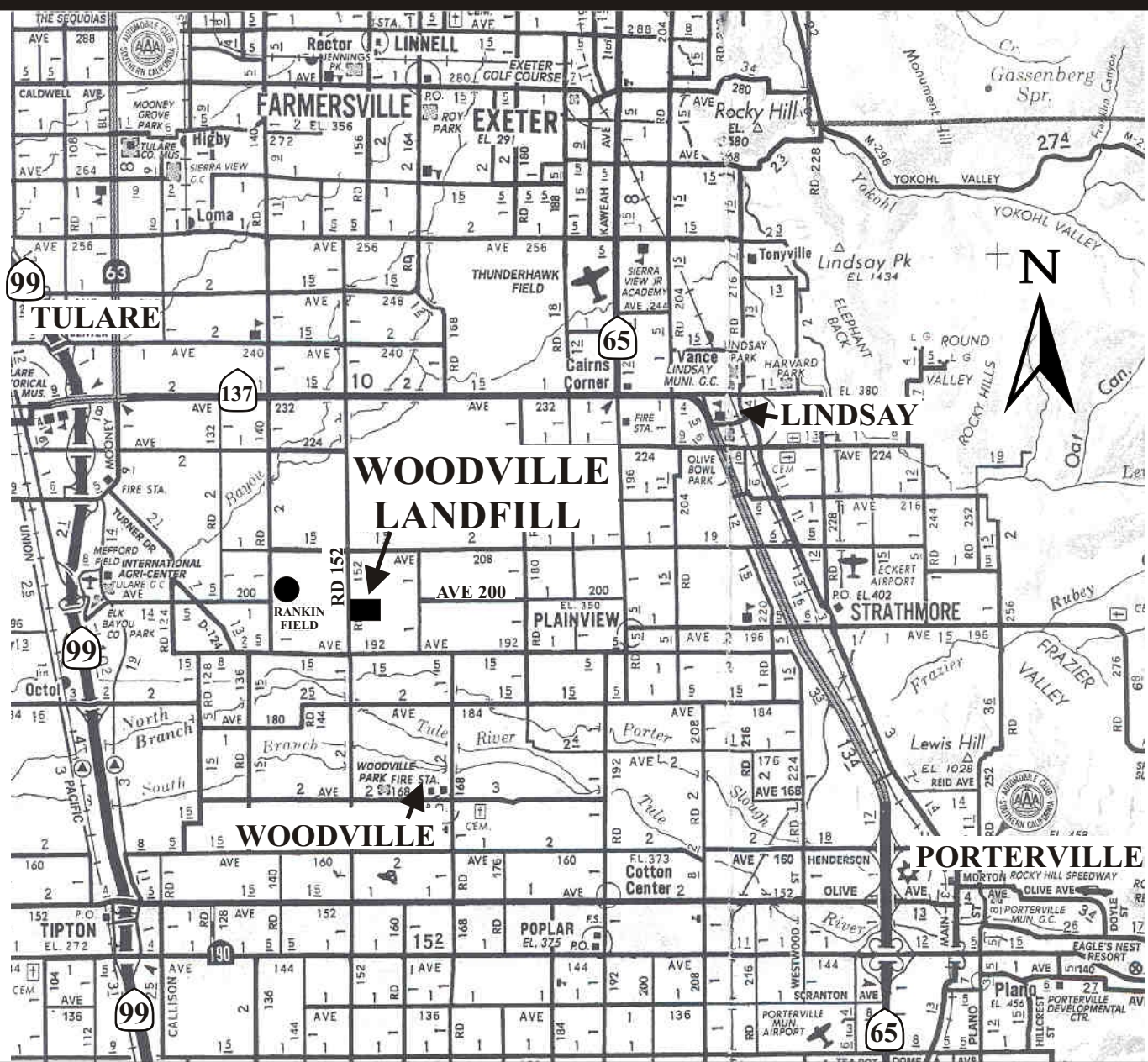
INFORMATION SHEET - ORDER NO. R5-2005-0102
COUNTY OF TULARE
FOR OPERATION
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

-4-

Subtitle D regulations. These requirements are consistent with Resolution No. 93-62 and Subtitle D, and implement the appropriate state regulations in lieu of Subtitle D. The Discharger also needs to comply with all applicable provisions of Subtitle D that are not implemented through compliance with this Order or Title 27 CCR.

The waste discharge requirements are being revised for the purpose of making minor modifications to the prohibitions, specifications, and monitoring and reporting program. Therefore, the action to revise waste discharge requirements for the existing Units at this landfill is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, Section 15301.

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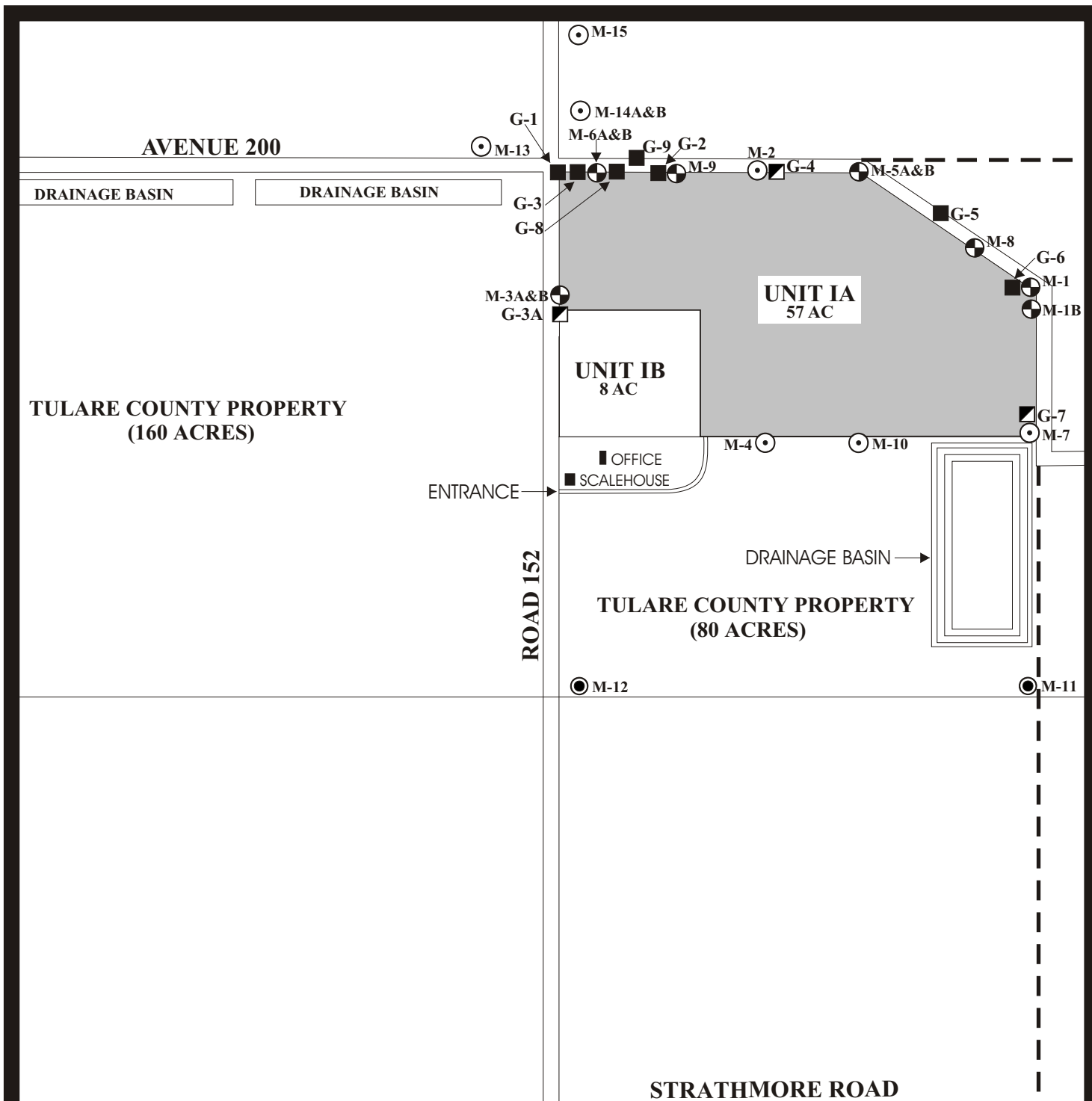
ATTACHMENT A

ORDER NO. R5-2005-0102






WASTE DISCHARGE REQUIREMENTS
FOR
OPERATION
FOR
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

N1/2 OF SECTION 35, T20S, R25E, MDB&M

LOCATION MAP



LEGEND

-  Detection Monitoring Well
-  Background Monitoring Well
-  Other Monitoring Well (Piezometric or Evaluation)
-  LFG Monitoring Well
-  LFG/Vadose Zone Monitoring Well



DSJ/VSM/C/LANDFILL/Wdville2005B2

ATTACHMENT B

ORDER NO. R5-2005-0102

WASTE DISCHARGE REQUIREMENTS
FOR
OPERATION
FOR
WOODVILLE MUNICIPAL SOLID WASTE LANDFILL
TULARE COUNTY

SITE PLAN